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[54] PERFORMANCE MEASURING FOOTWEAR

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[52] **U.S. Cl.** **73/172**; 128/779

[58] **Field of Search** 73/172, 379.01, 73/379.04; 128/774, 779; 36/1, 114

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[57] ABSTRACT

A foot mounted apparatus for measuring one or more locomotive performance parameters of a person is disclosed. Such locomotive performance parameters preferably include user vertical leap time, user vertical jump distance, user walking or running speed, user trip distance traveled, and accumulated total lifetime distance traveled by the apparatus. It is preferred that the apparatus include all of the structures of an athletic shoe such as a sole, upper, tongue, and lace. Four membrane switches are located in the sole of the footwear: a pair of membrane switches is positioned under the ball of the user's foot and a pair of membrane switches is positioned under the heel of the user's foot. The membrane switches sense the compressive pressure of the foot on the sole and detect when the foot leaves and contacts the underlying surface. A microprocessor calculates a performance parameter for the person based upon the elapsed time between the foot push off and the foot strike. A pair of pushbuttons connected to the microprocessor allow the user to change the mode of operation of the apparatus. The performance parameter which is output from the microprocessor is conveyed to the user either visually or aurally. The microprocessor and display are mounted on the footwear, preferably on the tongue of the shoe, in a water resistant housing with a long life battery providing self contained operation.

18 Claims, 3 Drawing Sheets